WISCONSIN ENDANGERED RESOURCES REPORT #129
STATUS OF THE AMERICAN MARTEN IN WISCONSIN
PERFORMANCE REPORT, 1 JULY 2003 THROUGH 30 JUNE 2004

By Adrian P. Wydeven and Jane E. Wiedenhoeft

SUMMARY

A total of 36 marten were detected along 206 miles of survey routes in the Chequamegon-Nicolet National Forest. All martens occurred in the Marten Restoration Areas of the Chequamegon and the Nicolet (157.2 miles). Marten tracks included 20 along 81.1 miles of the main survey routes in the Nicolet and 7 along 51.2 miles of the main survey routes in the Chequamegon. Rates of marten track observation were 24.7 marten per 100 miles in the Nicolet, and 13.7 marten per 100 miles in the Chequamegon. Work began on a new marten management plan for the state.

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Job 106.2.1 Monitor Population
Job 106.2.2 Determine Recovery Levels
Job 106.2.3 Enhance Population
Job 106.2.4 Communications

Background: American marten (*Martes americana*), also known as pine marten, were listed as state endangered in 1972. Between 1975-1983, 172 martens were released in northern Forest County in the Nicolet National Forest of northeast Wisconsin. Between 1987-1990, 139 marten were reintroduced into the Clam Lake area of Ashland County in the Chequamegon National Forest in northwest Wisconsin. Marten were released into Fisher Management Units, where fisher (Martes pennanti) were reintroduced in the 1950's and the 1960's. These management units were closed to all terrestrial trapping of fur bearers and have been re-designated as Marten Restoration Areas (MRA). The MRA's cover 344 mi^2 in the Clam Lake area of northwest Wisconsin and 188 mi^2 in northeast Wisconsin. Standardized track surveys were initiated in 1987 in the Nicolet National Forest, and in 1991 in the Chequamegon National Forest.

A recovery plan was developed for the American (pine) marten in Wisconsin in 1986. The 4 jobs listed in this report represent main strategies for recovering marten populations in Wisconsin.

JOB 106.2.1 MONITOR POPULATION

Three routes of about 25-30 miles each were established in the two MRA's. Plus two additional routes have been run in the Nicolet location, and a new route was established in the Chequamegon site during the 2003-2004 study period. Routes were followed slowly with four-wheel drive vehicles >8 and < 24 hours after a fresh snowfall (Ashbrenner 1994). Tracks of individual marten, other carnivores and porcupines were recorded along each route.

Results and Discussion

Twenty marten were detected along 81.1 miles of survey routes 1-3 in the Nicolet National Forest, and 0 marten were detected along 48.8 miles along survey routes 4 and 5 (Table 1, Figure 1). Routes 1-3 were in the MRA, and routes 4 and 5 were to the east. The overall observation rate for routes 1-3 was 24.7 marten/100 miles. This rate was more than double the rate from the last 2 years.

Seven marten were detected along 51.2 miles of survey routes 1-2 in the Chequamegon National Forest, and 9 marten along 24.9 miles of survey route 4 (Table 2, Figure 2). All three survey routes were in the MRA, but route 4 was mostly south of the other routes. The overall observation rate for routes 1-2 was 13.7/ 100 miles. This rate was much higher than last year when only 1 marten was detected, but was similar to previous years.

The ratio of marten to fisher was 1 marten/2.6 fisher in the Chequamegon, and 1 marten/2.3 fisher in the Nicolet. This ratio has generally been close to 1 marten to 3 fisher, but last year the western area had a ratio of 1marten/8 fisher and the eastern location had 1 marten/7.2 marten. These indices of observation rates, and ratio of marten to fisher suggest a decline in marten in 2003, but seem to have rebounded to more typical levels in 2004.

Other carnivores detected included coyotes, dog, wolf, fox, bobcat, mink, and otter. Fisher and bobcat abundance was similar for both areas, but coyotes were more abundant in the Nicolet and wolf and fox were more abundant in the Chequamegon.

The survey routes where marten were detected mainly occurred in areas that had been designated as occupied marten range in Wisconsin by James Woodford (Figure 3). Some marten probably also occur in Menominee County and perhaps western Douglas County based on reports of biologists in the past.

In 2004 WDNR began new research on the density and status of the marten population in the Nicolet. James Woodford will be leading livetrapping efforts to determine population size in the area. Additionally Kevin Russell of University of Wisconsin-Stevens Point, and his graduate student Tim White will conduct a radio-telemetry study of habitat use by dispersing marten in the area.

JOB 106.2.2 DETERMINE RECOVERY LEVELS

The Wisconsin marten committee met on 19 May 2004 to discuss and plan marten management. Jon Gilbert expressed concern over extremely low capture rates on his study area in the Chequamegon and possible major declines in the marten population in the area. The committee discussed possible ways to deal with a potential marten decline. Kevin Russell and James Woodford also discussed their research plans for the Nicolet National Forest.

Work began in May 2004 on development of a new marten management plan. Graduate student Sarah Harvey of Miami University, Ohio will develop a draft plan and obtain input from the marten committee for the plan. Once the draft plan is completed, the marten committee will finalize it for approval by DNR administration.

JOB 106.2.3 ENHANCE POPULATION

Need for future and additional marten reintroduction will be discussed within the new management plan for marten. Ongoing monitoring and research will provide additional data on need for further re-introductions.

Plans are also being considered for establishing a fisher live-trap removal study in the Clam Lake area. The intent of this study would be to reduce fisher abundance and to enhance survival of marten.

JOB 106.2.4 COMMUNICATION

American marten surveys were published in the Wisconsin Wildlife Surveys (Wydeven and Wiedenhoeft 2004b), and marten observations were reported in that report in "Rare Mammal Observations" (Wydeven and Wiedenhoeft 2004a). Marten status and ecology information was included at talks to volunteer trackers at 2 training courses for 73 people.

Acknowledgement

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Table 1. Mammal track observations along marten survey routes in the Nicolet National Forest, winter 2003-2004.

Date	Route No.	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
03/04/04	1	17"	29.7	11	22	13	3	2 Otter 4 Dog
12/20/03	2	9"	23.0	6	10	17	4	2 Otter 2 Dog 2 Fox 1 Porcupine
03/12/04	3	28"	28.4	3	5	10	0	4 Dog 1 Porcupine 1 Raccoon
01/24/04	4	12"	32.3	0	6	20	4	1 Dog 4 Fox 2 Porcupine
01/28/04	5	13"	16.5	0	3	9	5	1 Fox 1 Porcupine
Totals			**129.9**	**20**	**46**	**69**	**16**	**4 Otter** **11 Dog** **7 Fox** **5 Porcupine** **1 Raccoon**
Rate per 100 mi (1-3)			(81.1)	24.7	45.6	49.3	8.6	4.9 Otter 12.3 Dog 2.5 Fox 2.5 Porcupine 1.2 Raccoon
2002-2003			(79.5)	11.3	71.7	65.4	7.5	5.0 Otter 1.3 Dog 7.5 Fox 2.5 Wolf 2.5 Porcupine

Table 1. cont.

Date	Miles Run	Number of Tracks Observed				
2001-2002	(123.4)	11.3	51.9	77.0	12.2	2.4 Otter 3.2 Dog 10.5 Fox 4.9 Porcupine
2000-2001	(79.1)	25.3	58.2	49.3	8.8	1.3 Otter 7.6 Fox 3.8 Porcupine
		Marten	**Fisher**	**Coyote**	**Bobcat**	**Other**
1999-2000	(80.9)	12.4	23.5	32.1	2.5	4.9 Otter 1.2 Dog 3.7 Fox 3.7 Porcupine
1998-1999	(79.4)	23.9	27.7	27.7	5.0	6.3 Otter 3.8 Fox
1997-1998	(84.1)	11.9	26.2	41.6	2.4	3.6 Otter 2.4 Fox 3.6 Porcupine
1996-1997	(76.2)	13.8	37.9	36.8	5.7	2.3 Otter 4.6 Fox 2.3 Porcupine

Table 2. Mammal track observations along marten survey routes near Clam Lake in the Chequamegon National Forest, winter 2003-2004.

Date	Route No.	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
01/08/04	1	5"	22.2	1	13	6	3	3 Otter 9 Fox 9 Wolf 1 Porcupine
12/13/03	2	7"	29.0	6	9	5	1	2 Otter 8 Fox 1 Porcupine
12/30/03	4	7"	24.9	9	19	0	1	3 Mink 2 Otter 4 Dog 7 Fox 1 Porcupine
Totals			**76.1**	**16**	**41**	**11**	**5**	**3 Mink** **7 Otter** **4 Dog** **24 Fox** **9 Wolf** **3 Porcupine**
Rate per 100 mi. (1-2)			51.2	13.7	43.0	21.5	7.8	9.8 Otter 33.2 Fox 17.6 Wolf 3.9 Porcupine
2002-2003 (1)			59.7	1.7	13.4	16.8	5.0	13.4 Otter 6.7 Fox 3.4 Wolf 1.7 Porcupine
2001-2002 (2-3)			45.2	11.1	48.7	13.3	11.1	2.2 Dog 35.4 Fox 28.8 Wolf 2.2 Porcupine
2000-2001			94.4 1 & 3 only	19.1 (10.2)	59.6	11.7	6.4	6.4 Mink 1.1 Badger 8.5 Otter 19.1 Fox 21.3 Wolf 1.1 Porcupine

Table 2. cont.

Date	Route No.	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
1999-2000			58.3	20.6	70.3	41.2	12.0	3.4 Mink 18.9 Otter 5.1 Dog 22.3 Fox 8.6 Wolf 3.4 Porcupine
1998-1999	None							
1997-1998			72.6	9.7	41.4	17.2	1.4	2.8 Dog 30.4 Fox 9.7 Wolf 1.4 Porcupine
1996-1997			76.2	17.1	56.4	10.5	2.6	1.4 Otter 23.2 Fox 7.1 Wolf 2.8 Porcupine